

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,845,191 B1  
APPLICATION NO. : 10/661991  
DATED : January 18, 2005  
INVENTOR(S) : Xie et al.

Page 1 of 7

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Cover Page,

Item (54), after "DIVISION" change "MULTIPLIED" to --MULTIPLEXED--

Column 1,

Line 19, after "optical" change "filers" to --filters--  
Line 31, change "different portion," to --different portions,--  
Line 50, change "processes" to --process--  
Line 57, change "Battening" to --flattening--

Column 2,

Line 20, before "dispersion" insert --the--  
Line 21, change "filter" to --filters--  
Line 21, after "OC-192" change "signal" to --signals--

Column 3,

Line 30, after "will become" change "ore" to --more--  
Line 40, change "dispersions profiles" to --dispersion profiles--

Column 4,

Line 36, change "EMBODIMENT" to --EMBODIMENTS--  
Line 44, after "mux/demux can" insert --,--

Column 5,

Line 30, after "delay path" change "with" to --within--  
Line 53-54, change "Others of the cells," to --Other cells,--  
Line 54, after "harmonic cell(s)" insert --,--  
Line 60, after "of the cells" insert --,--  
Line 63, change "GHzThe" to --GHz. The--  
Line 64, after "paths in a filter" remove ",",

Column 6,

Line 5, change " $L_I$  and  $L_I$ " to -- $L_I$  and  $L_J$ --  
Line 6, after "substage" insert --,--  
Line 7, after "cells" remove ",",  
Line 9, after "cell" insert --,--  
Line 40, change "theft" to --the first--  
Line 42, after "dispersion" change "in" to --within--  
Line 43, after "signal integrity" insert --within--  
Line 49, change "FIGS. 2A-8" to --FIGS. 2A-B--

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Column 7,

Line 2, change "Cb 9-Ch 13," to --Ch 9-Ch 13,--  
Line 3, after "the vertical" change "was" to --axis--  
Line 37, change "380° to 720°" to --360° to 720°--  
Line 45, after "even channels" change "experience" to --experiencing--  
Line 53, after "retardations of" remove "the"

Column 8,

Line 6, after "flat line response" insert --,  
Line 7, change "stop bends" to --stop bands--  
Line 10, change "sign diagrams" to --signal diagrams--  
Line 14, change "fist and slow pats" to --fast and slow paths--  
Line 22, after "in this example" insert --,  
Line 54, after "in this example" insert --,

Column 9,

Line 25, change "Supposed" to --Superimposed--  
Line 58, before "port 136" change "renaming" to --remaining--

Column 10,

Line 9, after "Path 516 would" remove "in"  
Line 34, before "cell 570." change "with" to --within--  
Line 41, after "The couplers" remove "may"  
Line 51, change "sub-stages" to --sub-stage's--  
Line 58, after "stopbands" remove "of"  
Line 65, change "do-interleaved" to --de-interleaved--

Column 11,

Line 10, after "couple would" remove "of"  
Line 37, before "be fabricated" change "ma" to --may--  
Line 38, after "dielectric" change "coat" to --coatings--  
Line 42, change "filters 630 and 66." to --filters 630 and 660.--

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Column 12,

Line 4, change "fist path," to --fast path,--  
Line 21, after "Where the cell" change "if" to --is--  
Line 30, change "two filter calls," to --two filters cells,--  
Line 30, change "serial coupled" to --serially coupled--  
Line 31, between "Each" and "serially" insert the following missing line:  
    --cell includes a pair of delay paths. Filter 660 also includes two  
    filter cells 670, 680--  
Line 35, change "Del" to --Delay--  
Line 54, change "sub-stages" to --sub-stage's--  
Line 61, after "stopbands" remove "of"

Column 13,

Line 8, after "half waveplate" insert --,  
Line 10, after "polarization vector" remove " ,"  
Line 13, after "amount  $2\Phi$ " insert --,  
Line 16, after "fulll waveplate" insert --,  
Line 17, change "polarized fight" to --polarized light--  
Line 19, after "polarization vector" remove " ,"  
Line 22, after "FIGS. 7A-D" insert --,  
Line 62, after "The linearly" change "polar" to --polarized--

Column 14,

Line 15, before "by waveplates" change "polarized" to --linearized--  
Line 25, before "the incident wavelength." remove "A"  
Line 28, change "optical bean" to --optical beam--  
Line 63, change "Light transit" to --Light transmitted--

Column 15,

Line 4, change "realigns" to --re-aligns--  
Line 15, change "beam splitter 134" to --beam splitter 1134--  
Line 21, after "beam splitter" change "are" to --is--  
Line 23, change "fist coupler" to --first coupler--  
Line 24, change "corresponded" to --correspond--  
Line 35, after "two pairs of" change "prism." to --prisms.--  
Line 35, change "block 110" to --block 1110--  
Line 36, change "beam splitter 114" to --beam splitter 1114--  
Line 50, change "exterior surfs" to --exterior surfaces--  
Line 54, change "second block 130." to --second block 1130.--

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 16,

Line 35, change "vectors 156-1158." to --vectors 1156-1158.--

Line 37, after "center wavelengths" insert --,--

Line 62, change "reflectors 1112 and 1130" to --reflectors 1112 and 1132--

Column 17,

Line 12, change "within an." to --within an--

Line 48, change "The cell 1102" to --The cell 1106--

Line 67, before "either delay path" remove "the"

Column 18,

Line 10, change " $\theta_{r1}$  and  $\theta_{R1}$ " to --  $\theta_{T1}$  and  $\theta_{R1}$ --

Line 40, change "component" to --components--

Line 41, before "a net change" insert --in--

Line 50, change "is shown is cleaved" to --is shown cleaved--

Column 19,

Line 28, change "are rennin" to --are realized--

Line 43, change "cell 100" to --cell 1100--

Line 46, change "cell 100" to --cell 1100--

Column 20,

Line 9, change "polarization axis" to --polarization axes--

Line 27, after "delay paths" insert --,--

Line 38, change "pa length" to --path length--

Line 42, after "refraction "n"" insert --of--

Line 46, after "a vacuum" insert --,--

Line 62, change " $L_{12}$ - $L_{22}$ " to -- $L_{12}$  and  $L_{22}$ --

Column 21,

Line 3, change "follow" to --following--

Line 37, change "optical p length" to --optical path length--

Line 49, change " $L_1$  and  $L_1$ " to --  $L_1$  and  $L_j$ --

Line 49, change "path length" to --path lengths--

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Column 22,

Line 10, change "the bean" to --the beam--  
Line 19, change "angle  $\Phi_1$ " to -- angle  $\Phi_2$ --  
Line 21, change "shows the" to --shows both the--  
Line 22, change "vectors,  $P_2$ ,  $S_2$ " to --vectors  $P_2$ ,  $S_2$ --  
Line 34, change " $2^1$  or 4" to -- $2^2$  or 4--  
Line 36, change "the fit cell" to --the first cell--  
Line 45, change "1<sup>st</sup> to 4 th paths" to --1<sup>st</sup> to 4<sup>th</sup> paths--  
Line 61, change "optical stream" to --optical streams--  
Line 63, change "optical stream" to --optical streams--  
Line 65, change "can substantially" to --can be substantially--  
Line 66, change "45 degree" to --45 degrees--  
Line 67, change "(45+22.5) degree." to --(45 + 22.5) degrees.--

Column 23,

Line 1, change "and a cell" to --and a 2 cell--  
Line 21, change "C.R. Henry" to --C.H. Henry--  
Line 29, change "Passive Thermal" to --Passive Thermal--  
Line 32, change "mux/demux" to --mux/demux.--  
Line 59, change "across a rage" to --across a range--

Column 24,

Line 9, change "dosed loop" to --closed loop--  
Line 10, change "any increase" to --may increase--  
Line 14, change "which nuke" to --which make--  
Line 34, change "p," to --paths,--  
Line 56, change " $a_i$  and  $a_4$ " to -- $\alpha_i$  and  $\alpha_j$ --  
Line 58, change "respective" to --respectively--

Column 25,

Line 15, change "Row 7" to --Row 4--  
Line 16, change "thermal expansion a" to --thermal expansion  $\alpha$ --  
Lines 18-19, change "components" to --component--  
Line 22, change "forms 35 degree" to --forms a 35 degree--  
Line 23, change "to bottom surface" to --the bottom surface--  
Line 25, change "width is" to --width in--  
Line 49, after "are increased" insert --,--  
Line 60, change "with the sequence." to --within the sequence.--  
Line 63, change "beans 1160-1162" to --beams 1160-1162--

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Column 26,

Line 15, after "pair  $\theta_{R2}$ " insert --,  
Line 29, after "beams 1160-1162" insert --,  
Line 36, change "FIG. 10A" to --FIG. 10A.--  
Line 39, change "delay path" to --delay path.--  
Line 41, change "propagation path" to --propagation path.--  
Line 56, change " $\theta_{R1}$  and  $\theta_{r1}$ " to -- $\theta_{R1}$  and  $\theta_{T1}$ --  
Line 58, before "Equations 4-5," remove "equations"  
Line 59, change "and with  $\theta_{r1}$ ," to --and with  $\theta_{T1}$ --  
Line 65, change "transmission A)" to --transmission (T)--

Column 27,

Line 6, change " $L_1$  and  $L_1$ " to -- $L_1$  and  $L_J$ --  
Line 8, after "paths  $\theta_{R1}$ " remove "  
Line 9, change "and  $\theta_{R1}$ ." to --and  $\theta_{T1}$ --  
Line 11, after "100 GHz" insert --,  
Line 17, after "FIG. 10A" insert --,  
Line 18, after "polarized light" remove "that"  
Line 34, change " $\theta_{R1} \setminus \theta_{R2}$ ," to --  $\theta_{R1} \setminus \theta_{R2}$ --  
Line 48, after "corresponding path" insert --,  
Line 57, after "filter transform" insert --,  
Line 59, after "the example" insert --is--

Column 28,

Line 6, change "fat top profile" to --flat top profile--  
Line 7, change "FIG." to --FIGS.--  
Line 14, change "well know" to --well known--  
Line 17, change "exhausive" to --exhaustive--  
Line 18, change "disclosed:" to --disclosed.--

Column 29,

Line 51, change "process optical signals," to --processes optical signals,--

Column 30,

Line 53, change "process optical signals" to --processes optical signals,--

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Column 31,

Line 19, change "comb filer function;" to --comb filter function;--

This certificate supersedes Certificate of Correction issued December 5, 2006.

Signed and Sealed this

Seventh Day of August, 2007

A handwritten signature in black ink, appearing to read "Jon W. Dudas". The signature is stylized with a large, looping initial "J" and a distinct "D".

JON W. DUDAS  
*Director of the United States Patent and Trademark Office*